



SY-6IZM/3 Motherboard

Quick Start Guide

Introduction

Hardware
Installation

Quick BIOS
Setup

The SOYO CD

FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

100% POST CONSUMER
RECYCLED PAPER

SY-6IZM/3 Motherboard

Pentium® III, Pentium® II & Celeron™ processors
82440 ZX AGP/PCI Motherboard
3D Audio & AGP built-in
66 & 100 MHz Front Side Bus supported
Micro-ATX Form Factor

Copyright © 1998 by Soyo Computer Inc.

Trademarks:

Soyo is a registered trademark of Soyo Computer Inc. All trademarks are the property of their owners.

Product Rights:

Product and corporate names mentioned in this publication are used for identification purposes only and may be registered trademarks or copyrights of their respective companies.

Copyright Notice:

All rights reserved. This manual is copyrighted by Soyo Computer Inc. You may not reproduce, transmit, transcribe, store in a retrieval system, or translate into any language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, any part of this publication without express written permission of Soyo Computer Inc.

Disclaimer:

Soyo Computer Inc. makes no representations or warranties regarding the contents of this manual. We reserve the right to revise the manual or make changes in the specifications of the product described within it at any time without notice and without obligation to notify any person of such revision or change. The information contained in this manual is provided for general use by our customers. Our customers should be aware that the personal computer field is the subject of many patents. Our customers should ensure that their use of our products does not infringe upon any patents. It is the policy of Soyo Computer Inc. to respect the valid patent rights of third parties and not to infringe upon or assist others to infringe upon such rights.

Restricted Rights Legend:

Use, duplication, or disclosure by the Government is subject to restrictions set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at 252.277-7013.

About This Guide:

This Quick Start Guide is for assisting system manufacturers and end users in setting up and installing the Motherboard. Information in this guide has been carefully checked for reliability; however, no guarantee is given as to the correctness of the contents. The information in this document is subject to change without notice.

If you need any further information, please visit our **Web Site** on the Internet. The address is "<http://www.soyo.com.tw>".

6IZM/3 Serial - Version 1.0 - Edition: February 1999

* These specifications are subject to change without notice

1 Introduction

Congratulations on your purchase of the **SY-6IZM/3** Motherboard. This *Quick Start Guide* describes the steps for installing and setting up your new Motherboard.

This guide is designed for all users to provide the basic steps of Motherboard setting and operation. For further information, please refer to *SY-6IZM/3 Motherboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your Motherboard.

Unpacking

* If your board comes with a driver disc and a paper manual, the Quick Start Guide and the CD-ROM are not included in the package.

When unpacking the Motherboard, check for the following items:

◆ The SY-6IZM/3 82440 ZX AGP/PCI Motherboard

◆ This Quick Start Guide

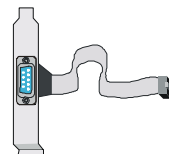
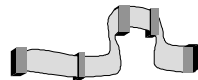
◆ The Installation CD-ROM

◆ The CPU Retention Set

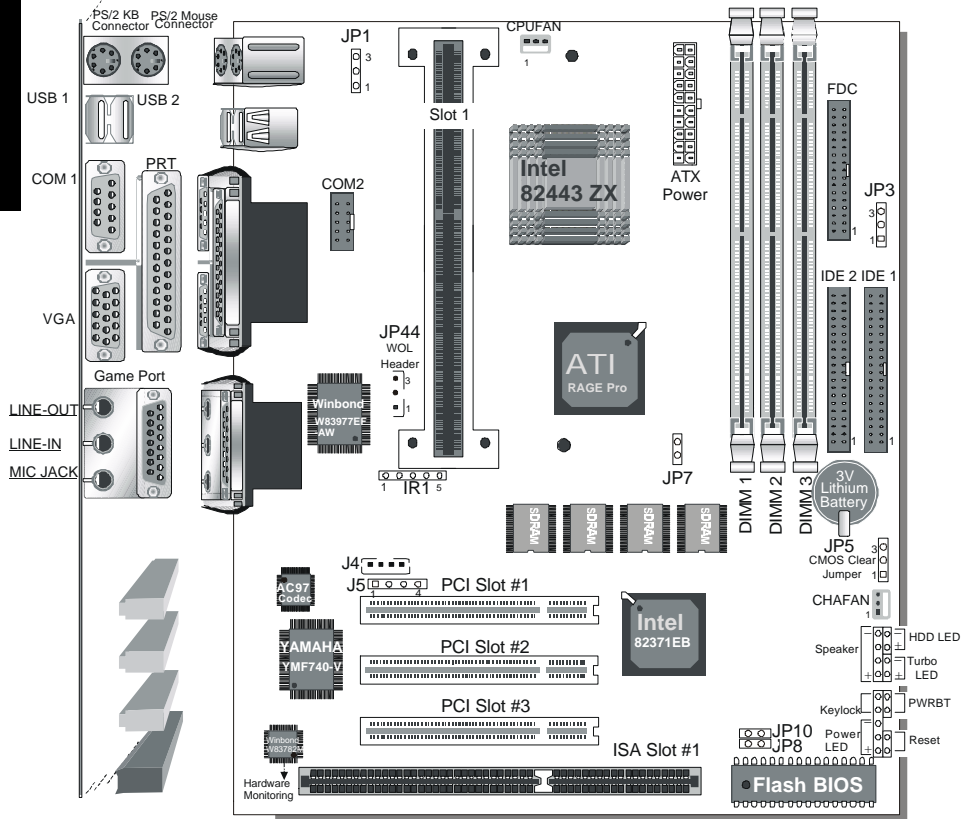
◆ One IDE Device Flat Cable

◆ One Floppy Disk Drive Flat Cable

◆ Serial port flat cable with a 9-pin connector bracket



SY-6IZM/3 Motherboard Layout



Key Features

- Supports Intel Pentium® III processor (450-550MHz), Pentium® II processor (233-450MHz) & Celeron™ processor (266-433MHz)
- Easy CPU settings in BIOS with the "SOYO COMBO Setup".
- 3D YAMAHA YM740 Audio
- ATI Rage Pro Graphics/Video with 8MB Video memory on board
- Auto-detect CPU voltage
- PC98, APM, ACPI, Ultra DMA/33
- Power-on by modem or alarm
- Supports Wake-On-LAN (WOL)
- Supports Power-On by PS/2 Keyboard
- 3 x 32-bit bus mastering PCI slots
- 1 x 16-bit ISA slot
- 2 x USB ports
- 1 x IrDA port
- Supports multiple-boot function
- ATX power connector
- Power failure resume

2 Installation



To avoid damage to your Motherboard, follow these simple rules while handling this equipment:

- Before handling the Motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
- Remove the Motherboard from its anti-static packaging. Hold it by the edges and avoid touching its components.
- Check the Motherboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Follow the directions in this section designed to guide you through a quick and correct installation of your new **SY-6IZM/3** Motherboard. For detailed information, please refer to *SY-6IZM/3 Motherboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your Motherboard.

PREPARATIONS

Gather and prepare all the necessary hardware equipment to complete the installation successfully:

- ◆ Slot 1 processor with built-in CPU cooling fan (boxed type)
- ◆ SDRAM module
- ◆ Computer case and chassis with adequate power supply unit
- ◆ Monitor
- ◆ PS/2 Keyboard
- ◆ Pointing Device (PS/2 Mouse)
- ◆ Speaker(s) (optional)
- ◆ Disk Drives: HDD, CD-ROM, Floppy drive ...
- ◆ External Peripherals: Printer, Plotter, and Modem (optional)
- ◆ Internal Peripherals: Modem and LAN cards (optional)

Notice 1: This Motherboard features one built-in VGA port and three built-in audio-stereo ports. Therefore you do not need to install neither a VGA card nor a sound card.

Notice 2: If you want to use an external speaker connected to "Line-out" port, please make sure to use an "amplified speaker" that can generate proper output sound volume.

SY-6IZM/3 Quick Start Guide

Install the Motherboard

Follow the steps below in order to perform the installation of your new **SY-6IZM/3** Motherboard.

Step 1. Install the CPU

☒ **Mark your CPU Frequency:** Record the working frequency of your CPU that should be clearly marked on the CPU cover.





FSB 66MHz

<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 400MHz (66 x 6.0)	<input type="checkbox"/>
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 366MHz (66 x 5.5)	<input type="checkbox"/> 433MHz (66 x 6.5)	

FSB 100MHz

<input type="checkbox"/> 350MHz (100 x 3.5)	<input type="checkbox"/> 450MHz (100 x 4.5)	<input type="checkbox"/> 550MHz (100 x 5.5)	<input type="checkbox"/>
<input type="checkbox"/> 400MHz (100 x 4.0)	<input type="checkbox"/> 500MHz (100 x 5.0)	<input type="checkbox"/> 600MHz (100 x 6.0)	

CPU Mount Procedure: To mount the processor that you have purchased separately, follow these instructions.

Retention Module	Step 1. Open the two sides by folding them up.
	
Step 2. Push the locks on top of the CPU inward.	Step 3. Insert the CPU into the retention module. The CPU fits in the CPU slot in only ONE way, do not try to force it in.
Step 4. After completely inserting the CPU, push the two locks on top of the CPU outward. Now your CPU is ready for use.	
	To remove the CPU, press the two notches on top of the CPU inward. Now press the two slides on the retention module down and remove the CPU.

Note: Installing a heat sink and cooling fan on top of your CPU is necessary for proper heat dissipation. Failing to install these items may result in overheating and possible burn-out of your CPU.

Step 2. Make Connections to the Motherboard

This section tells how to connect internal peripherals and power supply to the Motherboard.

Internal peripherals include IDE devices (HDD, CD-ROM), Floppy Disk Drive, Chassis Fan, Front Panel Devices (Turbo LED, Internal Speaker, Reset Button, IDE LED, and KeyLock Switch.), Wake-On-LAN card, VGA card, Sound Card, and other devices.

For more details on how to connect internal and external peripherals to your new SY-6IZM/3 Motherboard, please refer to *SY-6IZM/3 Motherboard User's Guide and Technical Reference* online manual on CD-ROM.

Connectors and Plug-ins

IrDA (Infrared Device Header): IR1					Wake-On-LAN Header: JP44				
Pin1	Pin2	Pin3	Pin4	Pin5	Pin1	Pin2	Pin3		
VCC	None	IRRX	GND	IRTX	5VSB	GND	MP-Wakeup		
CPU Cooling Fan: CPUFAN				Chassis Fan: CHAFAN					
Pin1	Pin2	Pin3		Pin1	Pin2	Pin3			
GND	12V	SENSOR		GND	12V	SENSOR			
<div>Power LED Key Lock Speaker</div> <div><div><div>1</div><div>1</div><div>1</div></div><div><div>1</div><div>1</div><div>1</div><div>1</div></div></div> <div><div>1</div><div>1</div><div>1</div><div>1</div></div> <div>Reset PWRBT Turbo LED HDD LED</div>				Power LED			Keylock		
				Pin1	Pin2	Pin3	Pin1	Pin2	
				5V	NC	GND	Control Pin	GND	
				Speaker					
				Pin1	Pin2	Pin3	Pin4		
5V	NC	NC	Speaker out						
HDD LED		Turbo LED		PWRBT		RESET			
Pin1	Pin2	Pin1	Pin2	Pin1	Pin2	Pin1	Pin2		
LED Anode	LED Cathode	LED Cathode	GND	Power On/Off	GND	Power Good	GND		
CD Line-in: J4, J5					Pin 1	Pin 2	Pin 3	Pin 4	
Connect the CD Line-in cord from the CD-ROM device to the matching header J4 or J5.					J4	R	G	L	G
					J5	R	G	G	L
ATX Power On/Off: PWRBT				ATX Power Supply: ATX PW					
Connect your power switch to this header (momentary switch type). To turn off the system, please press this switch and hold down for longer than 4 seconds.				Attach the ATX Power cable to this connector. When using the Power-On by PS/2 Keyboard function, please make sure the ATX power supply can take at least 720mA load on the 5V Standby lead (5VSB) to meet the standard ATX specifications.					

SY-6IZM/3 Quick Start Guide



Step 3. Configure Memory

This Motherboard features 3 x DIMM for 168-pin 3.3V unbuffered DIMM modules, providing support for up to 256MB of main memory using DIMM modules from 8MB to 128MB.

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
1	Double-sided /Single-sided	Double-sided	
2	Double-sided /Single-sided		Double-sided
3	Double-sided /Single-sided	Single-sided	Single-sided
RAM Type	SDRAM		
Memory Module Size (MB)	8/16/32/64/128 Mbytes		
Note: Because DIMM 2 and 3 are shared, double-sided DIMMs can be used in only one of the DIMMs. With single-sided DIMMs both 2 and 3 can be used.			

Step 4. Set JP3 for power up FSB clock and AGP bus clock.

JP3 is used to adjust AGP bus clock frequency depending on the value of the front side bus (FSB) clock, also the setting of the JP3 determines the power up FSB clock which will remain effective until the BIOS set the FSB clock to the CMOS setting.

JP3 Setting		
Power up FSB Clock	66MHz	100MHz
AGP Clock	$\text{AGP Clock} = \text{FSB Clock} \div 1$	$\text{AGP Clock} = \text{FSB Clock} \div 1.5$

Note: The specification of maximum AGP bus Clock frequency is 66.6MHz.



- * Set JP3 to pin 1-2 short when you use a FSB 100MHz CPU.
- * Set JP3 to pin 2-3 short when you use a FSB 66MHz CPU.
- * Set JP3 to pin 1-2 short when you use a FSB 66MHz CPU but want to over clock the FSB clock to 100MHz via the BIOS setting.

Step 5. Set the CPU Frequency

You do not need to set any jumper for the CPU frequency. Instead, CPU settings are changed through the BIOS **[SOYO COMBO SETUP]**. Please refer to *Chapter 3 - Quick BIOS Setup* for details on how to set the Slot 1 processor frequency.



Step 6. Enable/Disable Power-On by PS/2 Keyboard (JP1)

You can choose to enable the Power-On by PS/2 Keyboard function by shorting pin 2-3 on jumper JP1, otherwise, short pin 1-2 to disable this function.

Support Power-On by Keyboard	Disable	Enable
JP1 Setting	Disable Power-On by PS/2 Keyboard function (short pin 1-2) 	Enable Power-On by PS/2 Keyboard function (short pin 2-3) 
Important: When using the Power-On by PS/2 Keyboard function, please make sure the ATX power supply can take at least 720mA load on the 5V Standby lead (5VSB) to meet the standard ATX specifications.		

Step 7. Power Button Enable (JP8)

Your system can be power on by either pressing a power button or typing in a password, which can be set in the BIOS SOYO COMBO Setup. To avoid being unable to power up the system due to of forgetting the password, you can place a jumper cap to short JP8. This will always enable the Power Button.

Power Button Enable	Power Button always enabled	Power Button according to BIOS setting
JP8 Setting	Short pin to always enable the Power Button. 	Open pin for a Power Button function according to the BIOS setting. 

Step 8. External Suspend Button (JP10)

Some cases come with a suspend button, insert the plug into JP10. In addition to through this button, the system can also enter the suspend mode through your OS.





Note: Suspend mode only functions if your Power Management mode is APM. Make sure that the BIOS setting for Power Management is APM. Windows 98 can be installed with ACPI Power Management (default is APM), in this case suspend mode will not function either.

SY-6IZM/3 Quick Start Guide

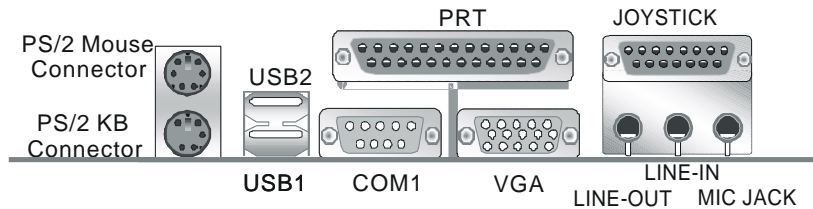
Step 9. Enable/Disable Onboard VGA(JP7)

The onboard VGA features of your Motherboard are controlled by jumper JP7. You can choose to enable or disable the available VGA function by setting JP7 accordingly.

- Leave JP7 open to enable the onboard VGA function. Then, you can plug your VGA device monitor, after the Motherboard is installed. (You do not need to install any VGA card.)
- To disable the onboard VGA options short pin JP7.



Onboard VGA	Disable	Enable
JP7 Setting	Short pin to disable the onboard VGA function. 	Open pin to enable the onboard VGA function. 

Step 10. Back Panel Connector



Step 11. Clear CMOS Data (JP5)

Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5 for at least 5 seconds, and then by shorting pin 1-2 to retain new settings. This jumper can be easily identified by its white colored cap.

CMOS Clearing	Retain CMOS Data	Clear CMOS Data
JP5 Setting	Short pin 1-2 to retain the new settings. 	Short pin 2-3 for at least 5 seconds to clear the CMOS. 

Note: You must unplug the ATX power cable from the ATX power connector when performing the CMOS Clear operation.



Note on Over-clocking Capability

The 6IZM/3 Motherboard provides over-clocking capability. Due to the over-clocking setting your system may fail to boot up or hang during run time. If this occurs, please perform the following steps to recover your system from the abnormal situation:

1. Turn off system power (If you use a ATX power supply, sometimes you have to press the power button for more then 4 seconds to shut down the system)
2. Set the JP3 to pin 2-3 short if you use a FSB 66MHz CPU
3. Press and hold down the <Insert> key while turning on the system power. Keep holding down the <Insert> key until you see the message of the CPU type and frequency (133MHz or 200MHz) appear on screen
4. Press the key during the system diagnostic checks to enter the Award BIOS Setup program
5. From the BIOS main menu, select [SOYO COMBO] and move the cursor to the [CPU Frequency] field to set the proper working frequency
6. Select [Save & Exit SETUP] and press <Enter> to save the configuration to the CMOS memory, and continue the boot sequence

Note: **SOYO does not guarantee system stability if the user over clocks the system. Any malfunctions due to over-clocking are not covered by the warranty.**

3 Quick BIOS Setup

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO SETUP]**. The **[SOYO COMBO SETUP]** menu combines the main CPU parameters that you need to configure, all in one menu, for a quick setup in BIOS.

After the hardware installation is complete, turn the power switch on, then press the **** key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will display on screen. Then, follow these steps to configure the CPU settings.

Step 1. Select **[LOAD SETUP DEFAULT]**

Select the "LOAD SETUP DEFAULT" menu and type "Y" at the prompt to load the BIOS optimal setup.

Step 2. Select **[STANDARD CMOS SETUP]**

Set [Date/Time] and [Floppy drive type], then set [Hard Disk Type] to "Auto".

Step 3. Select **[SOYO COMBO SETUP]**

Move the cursor to the **[CPU Speed]** field to set the CPU working speed.

Available [CPU Speed] settings on your SY-6IZM/3 Motherboard are detailed in the following table. If you set this field to [Manual], you are then required to fill in the next two consecutive fields: (1) the CPU Ratio, and (2) the CPU Frequency.

CPU Frequency		Select the working frequency of your Pentium® III, Pentium® II, Celeron™ processor among these preset values. Note: <input checked="" type="checkbox"/> Mark the checkbox that corresponds to the working frequency of your Pentium® III, Pentium® II, Celeron™ processor in case the CMOS configuration should be lost.
<input type="checkbox"/> 233MHz (66 x 3.5)	<input type="checkbox"/> 350MHz (100 x 3.5)	
<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 400MHz (100 x 4.0)	
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 450MHz (100 x 4.5)	
<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 500MHz (100 x 5.0)	
<input type="checkbox"/> 366MHz (66 x 5.5)	<input type="checkbox"/> 550MHz (100 x 5.5)	
<input type="checkbox"/> 400MHz (66 x 6.0)	<input type="checkbox"/> 600MHz (100 x 6.0)	
<input type="checkbox"/> 433MHz (66 x 6.5)	<input type="checkbox"/>	

Note: if you use Bus Frequencies of 75 MHz, make sure that your PCI cards can cope with the higher PCI clock.

Step 4. Select **[SAVE & EXIT SETUP]**

Press **<Enter>** to save the new configuration to the CMOS memory, and continue the boot sequence.

4 The SOYO CD

Your SY-6IZM/3 Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains the user's manual file for your new Motherboard, the drivers software available for installation, and a database in HTML format with information on SOYO Motherboards and other products.

Step 1. Insert the SOYO CD into the CD-ROM drive

The SOYO CD will auto-run, and the SOYO CD Start Up Menu will display as shown below.



(SOYO CD Start Up Program Menu)

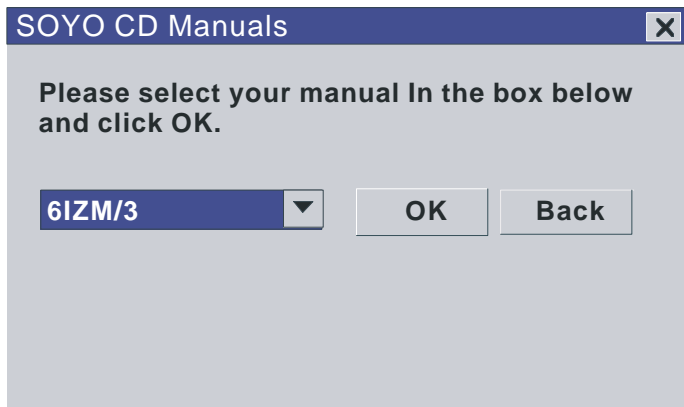
The SOYO CD Start Up Program automatically detects which SOYO Motherboard you own and displays the corresponding model name.

Step 2. Read SOYO [6IZM/3] Manual

Click the **Read Manual** button to open the user's manual file of your Motherboard.

SY-6IZM/3 Quick Start Guide

Please note that if the Start Up program was unable to determine which SOYO Motherboard you own, the manual selection menu will pop up, as shown below. Then select the user's manual file that corresponds to your Motherboard model name and click **OK**.



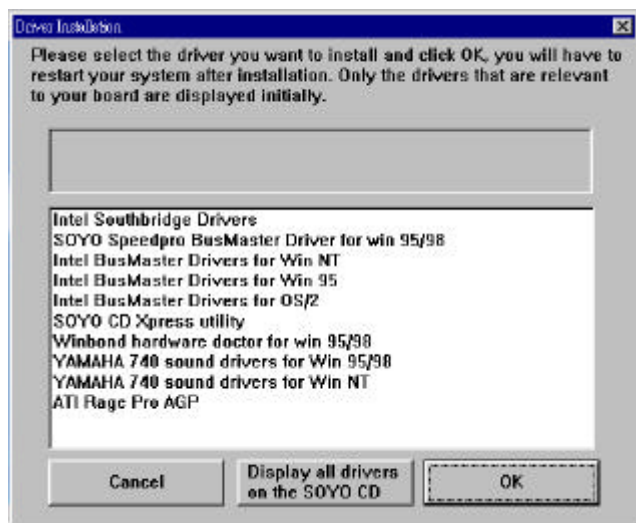
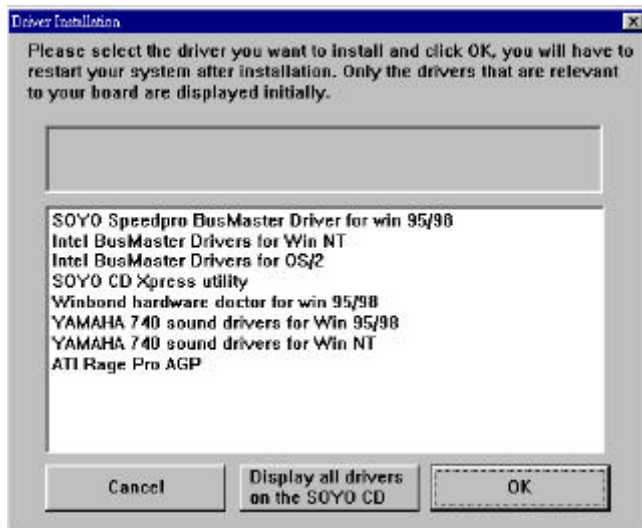
(Manual Selection Menu)

The user's manual files included on the SOYO CD can be read in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

Note: The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your screen during installation, then once the installation is completed, restart your system and re-run the SOYO CD.

Step 3. Install Drivers

Click the **Install Drivers** button to display the list of drivers software that can be installed with your Motherboard. The Start Up program displays the drivers available for the particular model of Motherboard you own. We recommend that you only install those drivers.

The following drivers are available for Windows 95**(Driver Installation Menu)****The following drivers are available for Windows 98****(Driver Installation Menu)**

SY-6IZM/3 Quick Start Guide

A short description of all available drivers follows:

➤ **Intel Southbridge Drivers**

Because Windows 95 does not recognize the Southbridge of the newer Intel chipsets (TX, BX, ZX etc) this utility has to be run, it will update the necessary Windows files. (Only for Windows 95)

➤ **SOYO SpeedPro Busmaster Driver for Win 95/98**

Without the busmaster drivers the CPU will need to be involved every time data is read from or written to the Harddisk. The busmaster drivers make use of DMA (Direct Memory Access) to relieve the CPU of this burden, thus speeding up the system.

The SOYO SpeedPro driver makes use of an advanced caching algorithm, which gives it an advantage over other busmaster drivers.

➤ **Intel Busmaster Drivers for Windows 95**

➤ **Intel Busmaster Drivers for Win NT**

➤ **Intel Busmaster Drivers for OS/2**

These are the official busmaster drivers as supplied by Intel.



Note: Do NEVER install two types of busmaster drivers on your system, this will lead to conflicts and system instability. Therefore, if you install the SOYO SpeedPro Busmaster driver you can NOT install the Intel Busmaster drivers. Before installing a new busmaster driver first UNINSTALL the old busmaster driver.

➤ **SOYO CD Xpress Utility**

This utility will enhance your CD-ROM Drive data-throughput by using space on the Harddisk as cache. This way application programs can access data faster. This utility is suitable for Windows 95/98.

➤ **System Monitor Utility**

Your motherboard comes with a hardware monitoring IC. By installing this utility Temperature, Fan speed and Voltages can be monitored. It is also possible to set alarms when current system values exceed or fall below pre-set values.

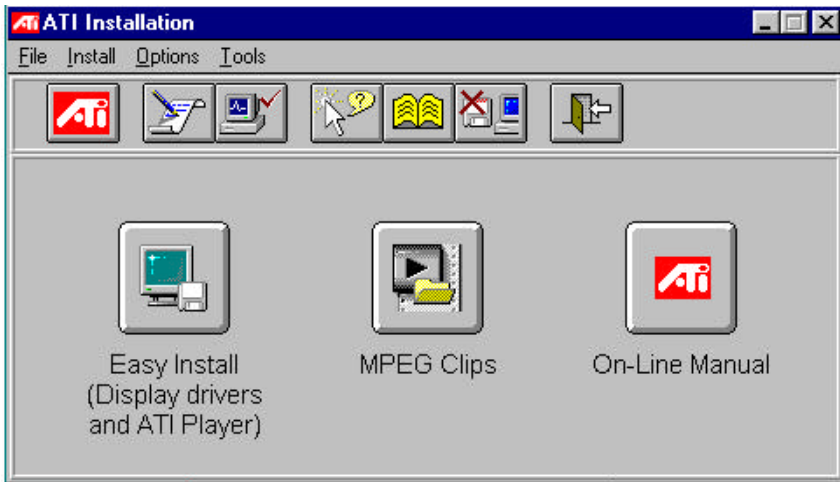
This utility comes with a preset monitoring range for the CPU voltage. However, the core voltage of the processor you purchased may fall out of this preset range, so you may need to adjust the pre-set value. Please refer to the SY-6IZM/3 Motherboard's CD manual for the details.

➤ YAMAHA 740 Sound Drivers for Win95/98 and Win NT

With this application program the user can make use of the on board sound chip. Before installing the YAMAHA 740 Sound Drivers, you MUST first install the YAMAHA 740 drivers for Windows 9x or NT.

➤ ATI Rage Pro AGP

Select this Item and click OK to start up the ATI Rage PRO AGP driver screen. Follow the instructions on the screen to install the drivers and/or application programs you need.



Note: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

However, to display the list of all drivers software available with SOYO Motherboards, click the **Display all drivers on the SOYO CD** button. Please make sure to install only the drivers adapted to your system, or otherwise this cause system malfunctions.

Edition: February 1999

Version 1.0

6IZM/3 SERIAL

International Headquarters

Soyo Computer Inc., (Taiwan)

Tel: 886-2-2290-3300

Fax: 886-2-2298-3322

Web Site: <http://www.soyo.com.tw>

E-mail: info@mail.soyo.com.tw

USA Branch Office

Soyo Tek Inc., (USA)

Tel: (408) 452-7696

Fax: (408) 573-7696

Web Site: <http://www.soyousa.com>

E-mail: sales@soyousa.com

SOYO Europe

Soyo Europe B.V., (Holland)

Tel: 31-79-3637500

Fax: 31-79-3637575

Web Site: <http://www.soyo-europe.com>

<http://www.soyo.nl>

E-mail: Sales@soyo.nl

Germany Branch Office

SAAT Technology GmbH, (Germany)

Tel: 49-(0)441-204044

Fax: 49-(0)441-203422

Web Sites: <http://www.saat.de>

<http://www.soyo-saat.de>

<http://www.soyo-saat.com>

Email: sales@saat.de

UK Branch Office

Soyo (U.K.) Ltd.

Tel: 44-(0)181-569 4111

Fax: 44-(0)181-569 4134

Web Site: <http://www.soyo.nl>

E-mail: sales@soyo.nl

Japan Branch Office

Soyo Computer (Japan)

Tel: 81-3-33682188

Fax: 81-3-33682199

Web Site: <http://www.soyo.co.jp>

E-mail: soyo@po.iijnet.or.jp

Hong Kong Branch Office

Soyo Hong Kong Ltd. (H.K.)

Tel: 852-2710-9810

Fax: 852-2710-9078

Web Site: <http://www.soyo.com.hk>

E-mail: rshu@hkstar.com